



Federal Communications Commission
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Small Entity Compliance Guide

Operation of Unlicensed Devices in the 57-64 GHz Band

Report and Order

FCC 13-112

ET Docket No. 07-113, RM-11104

Released: Aug 9, 2013

This Guide is prepared in accordance with the requirements of Section 212 of the Small Business Regulatory Enforcement Fairness Act of 1996. It is intended to help small entities—small businesses, small organizations (non-profits), and small governmental jurisdictions—comply with the new rules adopted in the above-referenced FCC rulemaking docket(s). This Guide is not intended to replace the rules and, therefore, final authority rests solely with the rules. Although we have attempted to cover all parts of the rules that might be especially important to small entities, the coverage may not be exhaustive. This Guide may, perhaps, not apply in a particular situation based upon the circumstances, and the FCC retains the discretion to adopt approaches on a case-by-case basis that may differ from this Guide, where appropriate. Any decisions regarding a particular small entity will be based on the statute and regulations.

In any civil or administrative action against a small entity for a violation of rules, the content of the Small Entity Compliance Guide may be considered as evidence of the reasonableness or appropriateness of proposed fines, penalties or damages. Interested parties are free to file comments regarding this Guide and the appropriateness of its application to a particular situation; the FCC will consider whether the recommendations or interpretations in the Guide are appropriate in that situation. The FCC may decide to revise this Guide without public notice to reflect changes in the FCC's approach to implementing a rule, or to clarify or update the text of the Guide. Direct your comments and recommendations, or calls for further assistance, to the FCC's Consumer Center:

1-888-CALL-FCC (1-888-225-5322)

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Compliance Requirements for Operation of Unlicensed Devices in the 57-64 GHz Band

1. Objectives of the Proceeding

In the *Report and Order* adopted in August 2013 in ET Docket No. 07-113, the Commission amended the Part 15 Subpart C rules to improve the operation of unlicensed devices operating in the 57-64 GHz band (“the 60 GHz band”), while limiting the potential for harmful interference to licensed users in the band and maintaining access to the available spectrum on a shared basis for all unlicensed users. In the *Report and Order*, the objectives of the Commission were to extend the ability of 60 GHz point-to-point outdoor systems to provide longer communication distances between adjacent commercial buildings and in backhaul transport between cellular base stations. The enhanced 60 GHz systems will help the Commission fulfill its objectives to bring broadband access to every American by providing additional competition in the broadband market, lowering costs for small business owners accessing broadband services, and supporting the deployment of 4th Generation (4G) and other wireless services in densely populated areas by facilitating the use of unlicensed 60 GHz spectrum in backhaul transport.

Specifically, the Commission modifies its rules to: 1) allow higher emission limits for 60 GHz devices that operate outdoors with very high gain antennas to encourage broader deployment of point-to-point broadband systems; 2) specify the emission limit for all 60 GHz devices as an EIRP power level to promote repeatability of measurement data and provide uniformity and consistency in the rules; and 3) eliminate the requirement for indoor 60 GHz devices to transmit identification information (transmitter ID).

For outdoor devices, the *average* equivalent isotropically radiated power (EIRP) limit has been increased from 40 dBm to 82 dBm (and the *peak* EIRP increased from 43 dBm to 85 dBm), minus 2 dB for every dB that the antenna gain is below 51 dBi. Outdoor devices operating with these higher EIRP limits will be authorized for operation using only the specific antenna(s) with which the system will be marketed and operated.

2. General Information

Part 15 of the FCC rules contains the technical requirements for radio frequency (RF) devices that may be operated without an individual license. All Part 15 devices are required to accept harmful interference from other authorized operations, and are prohibited from causing harmful interference to other authorized operations. 47 C.F.R. § 15.5(b). The requirements in Part 15 also include radiated and power line conducted emission limits for intentional and unintentional radiators.

Intentional radiators are devices that intentionally generate and emit RF energy, *i.e.*, transmitters, such as the devices operating in the 60 GHz band in the above proceeding. Examples of Part 15 intentional radiators also include cordless telephones, remote control transmitters, remote utility meter readers, and wireless local area networking equipment. Part 15 intentional radiators must be certified by the FCC or a designated Telecommunication Certification Body (TCB) before they can be imported into or marketed within the United States.

Unintentional radiators are devices that intentionally generate, but do not intentionally emit, RF energy. Examples of Part 15 unintentional radiators include radio receivers, computers and TV interface devices such as DVD players, cable and satellite boxes. Most unintentional radiators can be authorized through a self-approval process in which the manufacturer has the equipment tested to ensure it complies with the Part 15 rules, but does not have to obtain certification through the FCC or a TCB. However, scanning receivers and radar detectors are required to be certified before they can be imported into or marketed within the United States.

3. What are the compliance requirements that apply to Part 15 operations in the 57-64 GHz band?

- The devices operating under these provisions must comply with the RF safety requirements specified in §§ 1.1307(b), 2.1091 and 2.1093.
- The devices operating under these provisions must be labeled with an FCC identification number as required by § 2.925 and the statement required by § 15.19(a)(3) indicating that the device complies with Part 15 of the rules, may not cause harmful interference and must accept any interference received.
- The devices operating under these provisions must provide information to the user as specified in § 15.21.
- The devices operating under these provisions must be marked and used only with the specific antenna(s) with which the device is certified. As specified by § 15.255(b)(1)(ii), these devices are not subject to the antenna substitution provisions in § 15.204(c)(2) and (c)(4).
- In-band power must comply with the limits in § 15.255(b).
- Out-of-band emissions must comply with the limits in § 15.255(c).
- The transmitter conducted output power must comply with the limits in § 15.255(e).
- Applications for equipment authorization of devices operating under these provisions must contain a statement confirming compliance with the radio frequency radiation exposure requirements specified in §§ 1.1307(b), 2.1091 and 2.1093 for both fundamental emissions and unwanted emissions. *See* § 15.255(g).

4. What Measurement Procedures may be used to demonstrate compliance with the Part 15 requirements for operations in the 57-64 GHz band?

The Commission has published a Measurement Procedure labeled “Guidelines for Compliance Testing of Millimeter Wave Devices”. This document can be downloaded at <https://apps.fcc.gov/oetcf/kdb/forms/FTSSearchResultPage.cfm?switch=P&id=20677>.

5. What are the certification approval requirements for devices operating in the 57-64 GHz band?

All devices operating under the provisions of § 15.255 must be certified by the FCC or a TCB before they can be imported into or marketed within the United States. Please refer to 47 C.F.R. § 2.901 for information on the equipment certification procedures.

6. What are the penalties for non-compliance with the rules?

Willful or repeated violations of the FCC's equipment authorization, importation and marketing rules, including but not limited to operation of communications equipment that does not comply with one or more of those rules, can result in forfeitures of up to \$16,000 for each violation or each day of continuing violation, up to a maximum of \$122,500. *See* § 1.80 of the FCC rules. Individuals or organizations may also be subject to criminal penalties under Title 18 of the U.S. Code. FCC field personnel, working in conjunction with the Attorney General of the United States, may seize illegal equipment. *See* 47 U.S.C § 510(b).

7. Where can I find the Part 15 rules and information for the 57-64 GHz band?

FCC Order adopting the Part 15 rules for operation in 57-64 GHz band: *Report and Order* in ET Docket No. 07-113, RM-11104, FCC 13-112, released August 9, 2013, 28 FCC Rcd 12517 (2013).

http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-13-112A1.doc (Word)

http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-13-112A1.pdf (Acrobat)

http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-13-112A1.txt (Text)

The Commission's Rules (47 Code of Federal Regulations (47 C.F.R.)) are available at http://wireless.fcc.gov/index.htm?job=rules_and_regulations.

Equipment authorization information:

<http://www.fcc.gov/oet/ea/>

8. What if I have further questions on the rules for Part 15 operations in the 57-64 GHz band?

The FCC maintains a web-based system that is used to submit inquiries to its Laboratory, as well as to search for previous rule interpretations and frequently asked questions. This system, called the OET Knowledge Database (KDB), can be accessed at www.fcc.gov/labhelp.